

“Know-how and non-propositional intentionality”<sup>1</sup>

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## I. Propositional knowledge

Among the states that take propositions as objects, one is of particular interest for epistemology: the state of knowledge. Propositional knowledge, as every introduction to epistemology will tell you, is the central and paradigmatic form of knowledge, and it is usually expressed by a sentence including a that-clause (although „that” can be often dropped):

(1) Georg knows that the set of rational numbers is denumerable.

As a first approximation, the object of knowledge here is the true proposition that the set of rational numbers is denumerable. On some accounts, knowledge is not a relation to a proposition, but to a fact, where a fact is understood to be more than a true proposition. This detail will not matter for our discussion: the important thing is that on the central notion of knowledge, knowledge aims at a *truth*, or something that bears an essential relation to a truth, like a truthmaker. (I will omit this qualification from now on, but it should be understood implicitly.) A complete account of propositional knowledge has to address issues about the nature of propositions: for example, do propositions consist of concepts? This is another question that will not really matter for our discussion, because I take it that on all theories, propositions are bearers of a truth-value, and the focus of the current investigation is whether all search for knowledge is search for the truth. If the answer to this question is negative, if there is knowledge which is not knowledge of a truth, then there is non-propositional knowledge.

At least on the surface form, not all attributions of knowledge relate knowledge to propositions. These other types of attributions abound in English and in all other languages I know of; in fact, they are probably more common than know-that attributions. On the basis of these examples, it's worth asking whether all knowledge is propositional. Some philosophers hold that knowing is a mental state (Williamson 2001), and on that view, knowledge is one of the propositional attitude mental states. Many others think that knowledge itself is not a mental state, but it has a mental state component, namely a belief. On this way of thinking, knowledge inherits its propositional content from its mental state component. Whichever view we take, we can ask whether those cases of knowledge which, on the surface, do not seem to relate to propositions, indeed exhibit non-propositional intentionality, either directly, or through some of their components.

In section II, will look at various linguistic formats we use to attribute knowledge. As we shall see, linguistic form is not everything: some forms of knowledge-attributions that are

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non-propositional on the surface are best understood as in fact relating to propositions. I identify a candidate for non-propositional knowledge: knowledge by acquaintance, but propose to address it elsewhere. Section III introduces know-how, and the question of whether know-how is non-propositional, and hence whether it involves non-propositional intentionality. In section IV, I note that the question of whether there is a distinctive kind of non-propositional or practical knowledge is usually approached through asking whether “know-how” is distinct from “know-that”. This naturally leads opposing parties to try to construct cases where we do, or do not naturally attribute “know-how”. The problem is that people's basic intuitions on these cases diverge, as I illustrate in section V. I propose in section VI that instead of trying to account for every ordinary usage of “know-how”, we should purposefully narrow our question. I briefly recall a certain tradition of talking about knowledge, present in Plato and Aristotle, and motivating Ryle's considerations. This tradition sees knowledge as a uniquely human cognitive achievement with a normative aspect. The central and paradigmatic case of this achievement has always been a certain kind of possession of truth. The question I propose to ask is this: is there another, similarly valuable and uniquely human cognitive achievement, which does not aim at the truth? In sections VII-X, I present the outlines of such a concept: it's an ability to reliably succeed in performing some action, which was developed and refined through reflecting on the ways of achieving this success. Practical knowledge is evaluated for reliable success in action, rather than for truth, so it's not propositional; but it has a reflective element which makes it similar to propositional knowledge. This conception combines elements of intellectualism and anti-intellectualism about knowledge how.

## II. Know-NP and know-wh

As noted above, in some knowledge-attributions, “know” is not followed by a that-clause. One variety combines “know” with a noun phrase, as in the following examples:

- (2) Laurel knows Hardy.
- (3) Leonard knows New York.
- (4) Amélie knows the works of Aristotle.

These attributions express something like a familiarity or acquaintance with something or someone. Arguably, this sense, sometimes called “acquaintance knowledge”, is actually different from the sense of „know” that figures in propositional knowledge attributions; this is supported by the fact that in a number of languages, two different words are used to express these two types of occurrences; for example, French distinguishes between „savoir” and „connaître”. Propositional attributions like (1) above are translated by „savoir”, and sentences (2)-(4) are translated by „connaître”. It is often assumed that knowing things in the sense we know people or places is not reducible to propositional knowledge.

Following Bertrand Russell's influential discussion (Russell 1910/11), a number of philosophers developed, or relied on, a philosophical notion of acquaintance which seems somewhat different from the ordinary notion involved in the above examples. Acquaintance on a philosophical theory is supposed to be a direct, non-propositional form of awareness of some object, and often the realm of objects that one can be acquainted with is limited for example to sense-data or simple mental qualities. On some theories, acquaintance plays an important role in a foundationalist theory of knowledge and justification. Acquaintance, either in the ordinary or in the

philosophical sense, has a clear directionality: it is directed at the object of acquaintance. So if the philosophical notion of non-propositional acquaintance is viable, and if the ordinary case is not reducible to propositional knowledge, then we have at least two kinds of candidates for non-propositional intentionality. This is a topic well worth studying, but it's not the focus of the present paper.<sup>2</sup>

The second type of widely used non-propositional attribution combines the word „know” with a so-called wh-clause, as in the following examples:

(5) Albert knows how fast light travels.

(6) Erwin knows where his cat is.

Wh-clauses contain an implicit question, for example, the question in (5), made explicit, is „how fast does light travel”? As this example shows, wh-clauses, though often start with a „wh”-word like „where”, „when” or „who”, can be formed with any interrogative word that figures in questions.<sup>3</sup>

These sentences, at least in their primary content, do not specify a proposition, but according to a widely accepted theory, the states so attributed are in fact states of propositional knowledge. That is, it is necessary and (possibly together with other conditions) sufficient for the truth of each of these sentences that the subject has some kind of propositional knowledge. According to the standard analysis, someone knows-wh only if she knows a/the proposition that answers the question implicit in the wh-clause. Several people suggested that knowing a proposition that answers the question implicit in the wh-clause is only necessary, but not sufficient for the relevant know-wh claim (Stout 2010, Schaffer 2007). Accordingly, further conditions can be added for sufficiency: then know-wh will be a special kind of propositional knowledge.<sup>4</sup>

### III. Know-how

A particular case of know-wh attributions has received particular attention: these are attributions of the form „know how to *G*”, where *G* is an activity or behavior, as for example in:

(7) Shirley knows how to sail a single-handed dinghy.

Know-how attributions are not covered by the general consensus on the standard analysis of know-wh. Ever since Gilbert Ryle's influential discussion (Ryle 1949), many philosophers have been convinced that at least certain cases of knowing how to do something do not consist in knowing some propositions. Many of Ryle's examples concern mental performances, like telling jokes, while a lot of the subsequent debate focused on skilled bodily actions, like the ability to do certain stunts

<sup>2</sup> I address the issue in Farkas (forthcoming b). I argue that acquaintance in the ordinary sense – though may well be a non-propositional relation to an object – is not knowledge in a sense that matters to epistemology. Insofar as the philosophical concept of “acquaintance knowledge” relies on the ordinary concept, it does not express knowledge either.

<sup>3</sup> There are other forms I'm not going to discuss in this paper, including apparently non-transitive occurrences: „Sam knows *about* the secret comings and goings next door, but *knows better* than to ask his neighbour about it.” Other languages have forms that do not occur in English; one of these, “know + infinitive”, present for example in French, Italian and Hungarian, will be mentioned in section V.

<sup>4</sup> I suggest elsewhere that this consensus can be questioned. See Farkas (2017).

while skiing. For both kinds of cases, it has been claimed that these skills are abilities or dispositions, rather than pieces of factual knowledge. If this is correct, we can ask whether cases of know-how are cases of non-propositional intentionality. The rest of the paper will be devoted to trying to answer this question.

The question of whether all knowledge is propositional is in the center of the know-how debate. But, one may ask, is this debate relevant to the issue of non-propositional *intentionality*? A state that has no propositional content could lack intentionality, or even mentality, altogether. For example, some philosophers argued that sensations or sub-personal states lack propositional content, and then went on to assert that these states don't have any representational or intentional, or in the second case, mental, features at all. In these cases, lack of propositional content did not mean the presence of non-propositional intentionality.

Intentionality is the mind's direction upon some objects. Therefore we need to see whether the mind is involved in knowledge-how, and whether its involvement is directional. To answer the first question, yes, the mind is involved. All cases of know-how are customarily regarded to require some mental contribution. Even when the focus is on skilled bodily action, knowledge-how involves intentional acting and some conscious control or guidance on behalf of the agent. This motivated Ryle's interest in the matter: he thought that a correct account of know-how was central to a correct understanding of the mind.

If know-how is propositional knowledge, then it is an instance of propositional intentionality. But suppose Ryle is right, and know-how is not propositional. On certain theories of the mind, intentionality is the mark of the mental, so as long as know-how has a mental component, it is intentional. A more challenging view for the present issue holds that there are non-intentional mental features. If that view were right, should the mental component of know-how be regarded as non-intentional?

To see this, consider the typical cases of mental features that are sometimes claimed to be non-intentional: sensations and moods. Sensations, on this view, are mere modifications of the subject's consciousness; they don't have a worldly object, they are just ways a subject feels or experiences. Moods are similarly supposed to lack a direction: for example, undirected anxiety is simply supposed to colour the consciousness of the subject with a certain kind of feeling. Are these cases similar to know-how (even assuming a Rylean, non-propositional account)? Not at all. Knowing how to *G* is not a mere feeling. The obvious thing that knowing how to *G* is directed at is the *activity of G-ing*, and its components. For example, the mental component of knowing how to sail a single-handed dinghy is directed at sailing a dinghy, and aspects of the world involved in this: the sails, the rudder, the wind, the waves, and so on. When Shirley exercises her skill of sailing a dinghy, her mind is engaged with the objects involved in sailing in a way characteristic of someone who knows how to do this.

The proponent of a propositional theory of know-how will probably agree that the activity of *G-ing* is among the intentional objects of knowing how to *G*. On one popular theory, knowing how to *G* amounts to knowing the proposition that *W* is a way of *G-ing* (for some appropriate *W*) (Stanley and Williamson 2001). Consider a putative case of non-propositional intentionality: love. Everyone will agree that the loved one is the (or an) intentional object of love; proponents of a propositional theory will claim, in addition, that loving can be reduced to some propositional attitudes which involve the loved one. Or consider acquaintance knowledge: everyone agrees that the object of acquaintance is the intentional object of the state; those who have a propositional

theory will claim, in addition, that acquaintance knowledge is identical to knowing some propositions that involve the object of acquaintance. The situation with knowing how seems exactly parallel. Knowing how to *G* is directed at *G*-ing; on a propositional account, it's the same as knowing a certain proposition concerning *G*-ing. So the debate between a propositional and non-propositional account of know-how is an instance of a debate about non-propositional intentionality.

#### IV. The dialectic of the know-how debate

We saw that knowledge attributions show interesting variety. This variety inspired our initial idea that perhaps not all knowledge aims at the truth. We saw that in some cases (know-wh), despite the surface form, knowledge was propositional after all. We have narrowed down our interest to attributions of the form “know how to do *G*”, and we are asking whether these claims aim at something other than the truth not only in their surface form, but also in their underlying nature.

To approach the question of distinctive types of knowledge through their characteristic linguistic expression is very much in the spirit of Ryle's discussion: he tied the issue of whether there is *sui generis* practical knowledge to the issue of whether “know-that” and “know-how” are genuinely distinct. Much of the subsequent debate followed Ryle in adopting this approach: it has been widely assumed that a proper account of “know how to do” attributions will answer the question of whether there is non-propositional practical knowledge. As an illustration of this assumption being widespread, see how a standard reference work like the *Stanford Encyclopedia of Philosophy* introduces different *kinds of knowledge* through the locutions we use to attribute knowledge:

It is common in epistemology to distinguish among three kinds of knowledge. There's the kind of knowledge you have when it is truly said of you that you know how to do something ... There's the kind of knowledge you have when it is truly said of you that you know a person ... And there's the kind of knowledge you have when it is truly said of you that you know that some fact is true ... (Fantl 2014).

This approach naturally implies a certain methodology: namely, a focus on the defining features of cases where we ordinarily use “know-how” attributions. Consequently, much of the debate has been conducted on the basis of intuitive judgements about awarding knowledge-how to subjects in specific situations. This is, to a certain extent, inevitable: we have to get our ideas for a theory from somewhere, and at least one important source of these ideas is given by the cases we consider to be this or that type of knowledge. The problem is, as we shall see in this section, that intuitive judgements on whether certain cases count as cases of know-how significantly diverge. This, I shall argue, points to an instability in the commonly used notion of knowing how. Ultimately, I will propose that a better approach is to try to formulate the question somewhat independently of ordinary use. So after the next section, we break with the practice of approaching the question of types of knowledge through ordinary attribution patterns.

The view inspired by Ryle's considerations on knowing how is now known as the “anti-intellectualist” position (defended for example in Cath 2011, 2014, Glick 2012, Fridland 2012, 2014, Noë 2005, Poston 2009, 2014), and the opposing view, which holds that know-how is a type of propositional knowledge is known as “intellectualism” (Stanley and Williamson 2001, Snowdon



2003, Bengson and Moffett 2011, Stanley 2011a, 2011b). Anti-intellectualism about know-how has a negative and a positive part: first, it denies that (all) know-how is a type of know-that, and second, it claims that knowing how is a certain type of ability or disposition to perform the relevant action. So there are three features in play: knowing how to *G*, being able to *G*, and propositional knowledge of a way of *G*-ing. Everyone agrees that there are cases where all three go together. But the interesting cases, for the dialectical purposes of the parties, are those where some of these allegedly come apart. Accordingly, intellectualists offer examples where they claim that know-how-to-*G* is present, but the ability to *G* is missing, or the other way around. In contrast, anti-intellectualist are keen on cases where they claim there is know-how-to-*G*, but no propositional knowledge of a way of *G*-ing, or the other way around. For these arguments to have any dialectical force, there has to be an agreement on the attributions. Unfortunately, that's not always the case, as the brief summary of two issues in the next section will illustrate.

#### V. Diverging intuitions about using “know how”

First, let's consider those who can't, but teach. John Bengson and Marc Moffett (2011) present the case of Pat, a ski instructor, who has been successfully teaching complex ski stunts for years, with some of his students even competing in the Olympics. However, he has never been able to do the stunts himself. Bengson and Moffett think it's obvious that Pat nonetheless knows how to do the stunts. Jason Stanley and Timothy Williamson in an earlier paper reached the same verdict (2001, p. 416). If they are right, the case is a good argument against anti-intellectualism.

Sadly, not everyone agrees with their judgement. Alva Noë (2005) thinks a lot depends on how we tell the background story. He is inclined to think that on an appropriate way telling, most people will claim that the instructor doesn't have the know-how. Ellen Fridland (2012) presenting a very similar case, thinks it's obvious that the successful gymnastics coach who is unable to perform a standing layout on a beam does *not* know how to do it. This looks like as good an impasse in a debate as it gets. People simply disagree in their basic, intuitive judgements about what counts as knowing how. Bengson, Moffett and Jennifer Wright (2009) did a survey on the ski-instructor's case and found that 81% said that the instructor knows how to do the stunts. Fridland is aware of this result, but she thinks it's inconclusive, because the poll ignored certain nuances about formulating the question. So the impasse returns.

Another group of cases that create a similar impasse involves subjects who learn instructions which are correct merely by accident. Here is a somewhat simplified example. Charlie would like to learn how to change a certain kind of lightbulb. He asks someone who has no knowledge about lightbulbs at all, but makes up something on the spot. The instructions happen to be correct completely by accident. Most people agree that Charlie did not gain knowledge of propositions like: “Turning the bulb left loosens it”, since the instructions are true because of sheer accident. However, some people strongly feel that Charlie still *knows how to change a lightbulb*.

Philosophers are divided on the issue. Stanley and Williamson (2001) discuss a similar luck-involving Gettier-type case of Bob, who is learning to fly in a flight simulator, on the basis of accidentally correct instructions and accidentally life-like information in the simulator. They claim that Bob does *not* have the know how. Yuri Cath (2011) and Ted Poston (2009) hold of this or similar cases that the subject does have the know-how (see also Stanley 2011b and Cath 2014 for further back and forth). Adam Carter and Duncan Pritchard (2015) agree with Stanley and Williamson's verdict on the Gettier cases (possibly only for the sake of argument), but claim that if

the instructions involve a so-called “fake-barn”, rather than a Gettier-type of luck, then clearly there is know-how without propositional knowledge. Another impasse in the debate.

For what it's worth, my own intuitions side with the intellectualists in the first kind of cases, and I could not quite make up my mind about the second type (especially not in the fake-barn case – it failed to elicit any intuitions). I also tried to see if intuitions work differently in my native Hungarian. Translating an English know-how-to-do sentence to Hungarian can be done in two ways: either preserving the know-wh structure, with an implicit question, or using a construction that does not exist in English, which attaches an infinitive to “know”. Both constructions exist also in French: “*savoir comment*” and “*savoir faire*”.<sup>5</sup> A similar double construction is present in English in the expressions “learning *how to do* something” and “learning *to do* something”.

In Hungarian, the know-wh construction is suggestive of knowledge of some method or instructions, and the know-infinitive construction seems to entail an ability. Accordingly, translating “Pat knows how to do the stunts” with the know-wh construction seems true, but translating it with the know-infinitive construction seems false. I asked native speakers of Italian (which also uses both constructions) and French about the case, and they agreed that *savoir/sapere*+infinitive entails ability, so it would not apply to the instructor.<sup>6</sup> They seemed to be somewhat undecided on the applicability of the know-wh construction – they kept wanting to describe the case in different terms. The epistemic luck cases continued to be puzzling in Hungarian, and the same was reported by my French and Italian informants.

One possible response to the diverging intuitions is to claim that the English “know-how” is ambiguous, between something like “*savoir comment*” and “*savoir faire*” (see Wiggins 2012 for a proposal along these lines). This could be another case of ambiguity in the English verb “know” which is disambiguated in some other languages (similarly to the “*savoir/connaître*” distinction). We could argue that a trace of this distinction is present also in English, in the “learning to do” / “learning how to do” constructions. This is the basis for a similar proposal by Ephraim Glick (2012): he thinks that in learning *to do* things and in learning *how to do* things, we acquire two different kinds of know-how: one that implies ability, and one that doesn't. Glick does not believe that “know-how” is ambiguous, but only that it comes in two varieties.

I do think that the meaning of “know-how” must be somewhat unstable, or otherwise there must be several kinds of know-how – something must explain the diverging intuitions. But the proposed ambiguity or classification can only be part of the solution. First, it doesn't seem to resolve the luck-involving cases, and second, we need a clear idea in any case what the difference is between the varying kinds or meanings. We need to articulate these questions somewhat independently of the linguistic expression. This is what I attempt to do in the next section.

## VI. Focusing the question

By attributing knowledge to a subject, we recognize a certain kind of cognitive achievement. We are very liberal in our ordinary attributions of knowledge, both practical and propositional: it's been claimed, for example, that “ants know how to self-medicate to fight off fungal infection” (Sarchet 2015), and that 18-month old infants “know that *one* is anaphoric to the phrasal category N' and

<sup>5</sup> Ian Rumfitt (2003) was one of the first to call attention to the potential importance of the “*savoir faire*” construction in the current know-how debate.

<sup>6</sup> Stanley claims that the proper French translation of “know how” is the *savoir*+infinitive construction (Stanley 2011a). But this isn't correct, if know-how in English does not entail ability (which is Stanley's view), but *savoir*+inf does.

thus that the NP has a hierarchical (rather than a flat) structure” (Lidz et al. 2003). If we took these attributions at face value, then some very influential theories of knowledge – for example, that knowledge is justified true belief – would not stand a chance. If ants possess genuine knowledge how, then this immediately disqualifies not only the intellectualist position (assuming that ants cannot know propositions of the type “this is a way of *G*-ing”) but also Ryle's theory, since Ryle regards know-how as a manifestation of intelligence (which ants presumably lack).

These examples show that in addition to diverging intuitions, we have further reasons not to regard ordinary usage of the term “know” as a straightforward guide to our theory. If we did, we would face a bewildering array of achievements – as well as a complex variety of classifications in different languages, and a notable instability in people's intuitions about applying the terms. So I suggest a different approach: we should purposefully single out a specific question for our study, while acknowledging that there are many other interesting questions in the vicinity. I will choose my question by joining a certain tradition of studying knowledge in the history of Western philosophy.

Recall the first sentence of Aristotle's *Metaphysics*: “All men by nature desire to know.” In the discussion that follows, Aristotle makes it clear that although we share certain cognitive abilities with non-human animals, there is a form of knowledge that is uniquely human. It is connected to art and reasoning, and it is valued for its own sake. Before Aristotle, Plato asked what we need to add to true belief in order to have knowledge, and discussed the possibility that this may be “logos”, which can be interpreted as a reason or an account of why something is true.

Ryle's discussion of knowing how is clearly related to this tradition. He saw the preoccupation with knowledge of truths as one of the central elements in the concept of mind he criticized. He speculated that the “early theorists” (presumably the Greeks) were so impressed by the success of theorizing in mathematics and the study of nature, that they

were predisposed to find that it was in the capacity for rigorous theory that lay the superiority of men over animals, of civilised men over barbarians and even of the divine mind over human minds. They thus bequeathed the idea that the capacity to attain knowledge of truths was the defining property of a mind. (Ryle 1949, p. 26)

Part of this conception is that if we encounter an intelligent performance of some activity, a case when someone manifestly knows how to do something, we tend to think that it must be accompanied by a parallel process of inner theorizing. In opposition to what he called the “intellectualist legend”, Ryle held that knowing how to do something does not consist of knowing some instructions in a propositional format. Instead, it is a multi-track disposition that manifests itself in the successful, efficient and correct manner of doing something. But success is not enough for an *intelligent* performance: that is also achieved by a well-regulated clock. In contrast, “To be intelligent is not merely to satisfy criteria, but to apply them; to regulate one's actions and not merely to be well-regulated.” (Ryle 1949, p. 28)

These all-too-brief impressions of the tradition form the background to the specific problem that I propose to discuss. Knowledge (of every kind), as I understand it, is a cognitive achievement unique to mature human beings, it is valued for its own sake, and it has a further normative dimension related to something like reasons. In our philosophical tradition, the paradigmatic example of such knowledge has been a certain kind of possession of truth. Now my question is: is



there another, similarly valuable, normatively loaded, uniquely human cognitive achievement, which does *not* aim at the truth, but is nonetheless usefully classified together with propositional knowledge? If there is, let us call it practical knowledge.

Restricting the inquiry to this particular question doesn't mean that there aren't other issues that could be discussed under the general topic of practical knowledge or knowing how. "Knowledge" could be understood much less restrictively, so that 3-months old babies would qualify as knowing something about their environment (Spelke 1994). "Knowing how" could be understood as something that animals like ants can possess, and questions could be asked about how these relate to other kinds of knowledge human and non-human animals may have (Devitt 2011). These choices would all raise interesting questions about cognitive achievements. But whichever question we investigate, we need to make a decision about the scope of our inquiry; just paying attention to the ordinary usage of the terms "know" and "know how" and their near-equivalents in other languages will not result in a theory.

Our target notion of practical knowledge has to satisfy two requirements. It has to be different from propositional knowledge in not aiming at the truth; but it has to be sufficiently similar to propositional knowledge so that it still deserves to be called knowledge. I will take these requirements in turn.

## VII. Practical knowledge and ability

Edward Craig suggested that the function of attributing knowledge is to flag reliable sources of information (Craig 1990). This identifies bearers of factual knowledge. The current proposal is that analogously, it would seem useful to recognize the cognitive achievement of people who reliably succeed in performing certain actions. This identifies bearers of practical knowledge. The two kinds of achievements have different goals, and their success is evaluated in different terms. Truth is the measure of success for reliable sources of information, being able to regularly perform a certain kind of action is the measure of success for reliable performers.

In setting up the debate about non-propositional intentionality, Alex Grzankowski observes that propositional attitudes are "evaluable for truth, accuracy, satisfaction, and so on. Very often, the various types of evaluability are accounted for, at bottom, in terms of truth." (Grzankowski 2013, p. 1124) In contrast, Grzankowski states, these terms of evaluation don't seem to apply to non-propositional attitudes like love and fear. If this is indeed the basis of drawing the distinction between propositional and non-propositional attitudes, then it seems that practical knowledge is non-propositional: a reliable ability to succeed in a certain action is not evaluable for truth.

We need to probe a bit further. Could these abilities be identical to, or a consequence of some piece of propositional knowledge? For example, I have the skill of changing lightbulbs in recessed ceiling lights: I regularly succeed in doing it, when I try. But, it may be suggested that I have this ability simply in virtue of my knowing some instructions that can be rendered in a propositional format. I learned these instructions from the internet after some futile attempts to figure out by myself how to change the lightbulbs. Knowing the instructions is what confers on me the ability to succeed in this task, hence this ability is not a cognitive achievement that is separate from propositional knowledge.

Suppose in general that I know that some means are suitable to achieve some specific ends that involve my action – or in other words, I know that  $W$  is a way of  $G$ -ing. Since knowledge is factive, executing  $W$  will indeed end in successful  $G$ -ing. Does this mean that I will reliably succeed

in G-ing, when I try? I don't see how this would automatically follow, unless we also add that *I am able to execute W*. But having this ability does not follow from knowing that *W* is a way of G-ing.

Accounts that cash out practical knowledge in terms of reliable abilities to perform often include the proviso that success needs to be restricted to certain range of circumstances (for example Hawley 2003). When we flag reliable performers by attributing them practical knowledge, we presumably want to indicate a relatively stable, abiding feature of the subject. But success depends also on variable states of the subject, and on some external circumstances. To execute the instructions to change a lightbulb, I need for example a ladder to reach the ceiling, and I need to be alert and not so intoxicated that I fall off the ladder.

Given that these further conditions are met, it seems that for normal subjects, knowledge of the instructions to change the lightbulb will indeed enable them to execute the instructions. But note here the reference to “normal subjects”. Normal subjects will have a lot of background that is essential for performing the given task. For example, they need basic sensorimotor abilities, orientation and balance, the ability to tell their left from their right. As a matter of empirical generalization, we can state that normal subjects who possess the instructions will be able to execute them in the right circumstances. But the ability to succeed will still be conceptually distinct from having propositional knowledge.

#### VIII. Reflective practical knowledge

The notion of practical knowledge has to satisfy two requirements: it has to be different from propositional knowledge in that its success is not measured in terms of truth; but it has to be similar enough to be the right kind of cognitive achievement. The previous section dealt with the first requirement, now we turn to the second.

By attributing knowledge we recognize a cognitive achievement or at least a success in a cognitive venture (even if it's parasitic on someone else's achievement, like in the case of testimony): to possess the truth, or to reliably succeed in a kind of action. To compare these two kinds of achievements, I will use Ernest Sosa's virtue epistemology theory as a starting point (Sosa 2009, Sosa 2015). One of Sosa's favorite examples involves a practiced archer shooting an arrow and hitting the bull's eye. The performance was successful (in Sosa's term, “accurate”), because the arrow hit the target; it manifested a certain skill or competence (it was “adroit”), and its success was due to the performer's competence, rather than to sheer luck (it was “apt”, which Sosa defines as “accurate because adroit”). Sosa compares this to the formation for example of a true perceptual belief that constitutes knowledge. There is a successful performance (namely the formation of a true belief); some competence is displayed (in this case the competence or reliability of the perceptual system), and the formation of the true belief was due to the exercise of this competence, rather than to mere luck.

Sosa's notion of “competence” is very broad: competences range from automatic and unconscious processes of the perceptual system that contribute to the formation of perceptual beliefs, to highly complex, learned skills like flying a plane. Many of these – especially at the lower end of the range – don't conform to the idea of a cognitive achievement that is comparable to the kind of knowledge that Aristotle was after. But those at the higher end, typically the ones which display intelligence, might. If we can identify a feature of certain competences that makes them comparable to the kind of achievement displayed in propositional knowledge, we could identify these competences with practical knowledge.

Note that on this conception, propositional and practical knowledge are not analogous in some respects. Propositional knowledge is a standing state that is the result of a successful performance by a belief forming mechanism. There is no parallel state of epistemic interest that results from the successful performance of the archer. The state produced is the arrow being lodged in target. Practical knowledge is not a product of a successful performance: it must have predated the successful performance. The following table tries to sum up the difference:<sup>7</sup>

Table 1.

	Factual knowledge	Practical knowledge
Measure of success	Truth	Reliable success in <i>G</i> -ing
Particular performance	Acquisition of true belief due to a competence	Successful <i>G</i> -ing on an occasion due to competence
Place of knowledge	<i>Results</i> from a particular competent performance	Identical to the competence that <i>underlies</i> a particular performance

Sosa analyses a competence as “a disposition (ability) to succeed when one tries.” (Sosa 2015, p.95). “Trying” has to be understood here in a broad sense, so as to cover a functional process achieving its aim as a case of “trying”. Perceptual competence has the aim of forming accurate perceptual representations, shooting competence has the aim of hitting the targets. The agent has a competence when she – or some process in her – reliably succeeds, in an appropriate range of circumstances, when tries to achieve a particular aim. In constructing a notion of competence that approaches our target notion of practical knowledge, the first thing we need to do is to restrict “trying” to its narrower, intentional sense, to exclude cases like the competence (or reliability) of the perceptual system. Practical knowledge is thus restricted to cases where agents intentionally try to perform certain actions and reliably succeed.

#### IX. Animal and reflective knowledge

When a competence (a reliable belief forming mechanism) results in the formation of a true belief, this is called by Sosa “animal knowledge”. One characteristic feature of Sosa's theory is the claim that human beings are capable of knowledge at a higher level, which he calls “reflective knowledge”. This is achieved when the subject not only has an ability to reliably form a true belief, but also has some idea of this ability. Reflective knowledge requires not only competence, but a meta-competence: an adequate assessment of one's first-order abilities to form true beliefs.

... animal knowledge does not require that the knower have an epistemic perspective on his belief, a perspective from which he endorses the source of that belief, from which he can see that source as reliably truth conducive. Reflective knowledge does by contrast require such a perspective. (Sosa 2009, 135)

Is there anything analogous to reflective knowledge for abilities in general? Sosa definitely thinks

<sup>7</sup> An interesting option that I have no space to pursue here is to think of propositional knowledge itself as analogous to a competence; that is, as a basis for other kinds of successful performances, for example teaching or informing. A similar idea is developed by Stephen Hetherington (2011).

there is, but his focus is on the individual performance, rather than the underlying competence. In the case of propositional knowledge, he is interested in the circumstances that produce a belief on a given occasion: was this production guided by the agent's proper assessment of his own abilities, as used on that occasion? For example, can I trust my eyesight with respect to an object of a certain size at a certain distance? Similarly, in the case of actions, he is interested in the aptness of the individual performance: when the archer hits the target, is her performance guided by her adequate assessment of her archery skills relative to the particular circumstances – for example, the suitability of the bow and the arrow, the distance and size of the target, the wind, the lighting conditions?

I propose to use the idea in a somewhat different way than Sosa does, by focusing on the role of reflection not in the individual performance, but in the *development of the very competence*. As I noted above (see Table 1), practical knowledge is not the product of a skillful performance but it's rather its basis. In the case of propositional knowledge, we are naturally interested in the circumstances of its production: the individual performance of a representation-forming competence. A similar question for practical knowledge, one that concerns its formation, is directed not at the particular skillful performance, but at the acquisition of the competence.

Success, for propositional knowledge, is the formation of a true belief. Success, for practice, is regular performance of a particular action: hitting the target, baking a cake, playing a piece on the piano. Agents are capable of paying attention to the ways of achieving this performance. This requires considering the goal of the practice, and the best sources of success to achieve that goal. This is the extent to which the process is similar to reflective knowledge for propositional knowledge: the agent has a perspective in which she sees herself as employing some means to achieve a goal, and she assesses the efficacy of the means. In some other respects, the process is going to be different.

Merely reflecting on the presence of an ability and having some understanding of how or why we achieve success is not enough in itself to achieve practical knowledge in an interesting sense. For example, I know I have a reliable ability to walk or raise my finger when I try (*ceteris paribus* – when my feet are not broken, when my finger is not in a bandage, etc.). The possession of these abilities is not a mystery: I have some understanding of the workings of the human body and how it supports my having this ability, and I have an idea of the limitations posed by possible internal and external obstacles. These ideas may be important for individual performances: for example, in deciding whether to risk walking on a slippery surface. However, in this case, my reflective knowledge of the ability *does not add to the ability itself*. I was very proficient in raising my finger before I started to reflect on the issue, and my reflections didn't do much to increase this proficiency.

The interesting cases for our purposes are those where an ability is gained, developed or refined with the help of reflection. This, I propose, is at least one very good sense in which we can talk about practical knowledge. The idea has already been proposed in the know-how debate. Ellen Fridland defines skills as “the subclass of abilities, which are characterized by the fact that they are refined or developed as a result of effortful attention and control to the skill itself.” (Fridland 2014). The effortful attention to the skill is a form of reflection, and thus we can see how reflection plays a role in the acquisition of practical knowledge.

Consider the ability to swim, which is often used as a case to illustrate practical knowledge, and contrast it with the ability to walk or run, which aren't. There doesn't seem to be anything in

these activities in themselves that would grant a special recognition of the achievement behind the former but not the latter. Beavers or turtles have the ability to swim as well as walk, and turtles are not well-known for their special cognitive achievements. The explanation is, I suggest, that for *us*, the ability to swim is usually developed through a conscious attention to developing the ability itself. We pay attention to ways of swimming, to the movement of our body, and we practice with these goals in mind. Through this process of reflecting on the ways of achieving the particular goal of this competence, we acquire and perfect the ability itself. In contrast, a beaver or a turtle has a mere animal ability, where reflection plays no role.

Or consider the ability to ride a bicycle, another favorite example discussed in the know-how debate. The activity itself does not necessarily require practical knowledge in the sense we are after: circus performing bears have this ability. However, I propose that the way we normally acquire the skill is different from the way bears acquire it. We make use of our perspective on the goals and means of the activity in a way bears can't. This could be compared to the difference between perceptual knowledge in humans and perceptual "knowledge" in animals. The animal ability to form accurate perceptual representations of the world underlies our full-blown perceptual knowledge as well, but it is supplemented by an epistemic perspective on this ability.

Interestingly, in the practical case, once the ability is acquired, the role of reflection often diminishes (unless we want to improve the ability further). An experienced swimmer could swim without paying any conscious attention to her movement, just like we usually walk without paying any conscious attention to our movements. The role of reflection is thus somewhat analogous for propositional and practical knowledge in that it plays a role in their acquisition. Exercising practical knowledge often does not require the reflection that was needed for acquisition.

This proposal can be seen as incorporating elements of both the intellectualist and anti-intellectualist position about know-how. It fundamentally agrees with anti-intellectualists in claiming that practical knowledge is an ability. But it highlights the importance of paying conscious attention to ways of doing things, which is the central feature of the intellectualist view.

#### X. Revisiting the know-how cases

My proposed candidate for "practical knowledge" is a certain type of cognitive achievement: a competence whose success is measured in terms of reliably performing some action (not, like propositional knowledge, in terms of possessing the truth), but whose acquisition is guided by reflection (and hence, like propositional knowledge, is a uniquely human cognitive achievement). Now it's worth having a look at the previous cases with competing intuitions about "knowing how", and see how we can handle them with the apparatus we started to develop.

Consider the luck involving cases. Intuitions aside, I do not see much that is epistemically valuable in Charlie's case. He does have the ability to reliably succeed in performing an action, but this is merely an „animal" competence at best, which happens to work, without any recognizable cognitive achievement behind it. Ted Poston explains why he thinks "intuition" supports attributing knowing how to fly a plane to someone who learned Gettiered instructions as follows:

There is a good sense in which Bob does know how to fly. Bob's attempts to fly would be no less successful than the attempts of others that underwent a regular flight course. If Bob took the controls of the plane he would perform adequately. Bob could successfully pass mandated tests to assess whether he obtained ample training. Bob's explanations of what to



do in certain counterfactual circumstances would appear just as adequate as his peers trained at a normal facility. In short, Bob's intentions to fly and subsequent performances would be successful. (Poston 2009, p.744)

All these concern nothing more than reliable success: that Bob *can* do all these things. It is possible that the somewhat shifting sense of "know how" includes mere abilities in the "can do" sense. After all, the etymological root of "can" and "know" are the same (and for example, in Hungarian they are expressed by the very same word, "tud"). If we naturally say that beavers know how to build dams, it may also be natural to say that Bob knows how to fly. But if we focus on the narrower question posed in this paper, Charlie and Bob will turn out to lack practical knowledge. The situation might change if they keep employing the instructions, and come to appreciate that this is indeed the way to change bulbs or to fly. So after a certain time, we might credit them with practical knowledge.

What about the teach-but-can't-do cases? Independently of the outcome of the debate about practical knowledge, it's clear that the coach has some sort of highly developed expertise which deserves to be called knowledge. Both intellectualists and anti-intellectualists seem to agree that this knowledge is expressible in a propositional format, but intellectualists insist it's "knowing how", whereas anti-intellectualists may propose that the coach is better characterized as "knowing *about* how to do something", or perhaps "knowing how one *ought* to do something" (Fridland 2012, Glick 2012, Poston 2015). I am sceptical about the weight of these nuances in the formulation, partly because – again – other languages do not follow the same pattern.<sup>8</sup> I think the simplest move is to grant that the coach knows how to do the tricks, and proceed to give an analysis of know-how in this case in accordance with know-wh sentences in general. But if someone insists on the alternative formulation, that's fine too.

Now consider the gymnast and the skier. It's clear that they also have a cognitive achievement that is worth recognizing. Even if the intellectualist is right and "know-how" in general does not entail ability, this does not make the skills that *do* entail ability any less interesting from an epistemological point of view. The intellectualist might want to say that their skill follows from some propositional knowledge – presumably knowledge of different propositions than those known by the coach, otherwise we have no explanation of the difference in ability. If what I said above is right, then knowledge concerning ways of performing stunts and gymnastic moves is indeed important in the story, because it was partly such knowledge that helped the performers to develop and refine their ability to succeed in the target actions. But the propositional knowledge does not conceptually entail the ability, so the abilities' presence is still worth recognizing.

We can use the term "know how", or "skill", or "practical knowledge" to indicate this kind of abilities. Calling them "know how" is potentially confusing, because of the different senses of "know-how" and the diverging intuitions concerning its use. I proposed that it's illuminating to call them practical knowledge, because just as we use propositional knowledge attributions to flag reliable informers, we can use practical knowledge attributions to flag reliable performers. In both cases, we indicate that agents have a cognitive achievement that is gained through the appropriate use of reflection, and in one case evaluated in terms of the truth, in the other in terms of reliable

<sup>8</sup> For example, in Hungarian, all sentences of the form "know-how-to-do" (and "know-wh-to-do" in general) contain a modal auxiliary – either "lehet" or "kell", which mean roughly "could" and "should", respectively. So the literal translation of the Hungarian sentences is always "knowing how (or when, or where) one should/could G".

success in action.

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